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METHODS AND RESULTS OF COOPERATIVE EXTENSION WORK

REPORTED THROUGH COUNTY AGRICULTURAL AGENTS 1922

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STATUS OF THE COUNTY AGRICULTURAL AGENT.

The county agricultural agent a public agent.—The county agricultural agent is the local extension representative of the State college of agriculture, the United States Department of Agriculture, and the local people wherever extension work is carried on cooperatively. He is the joint representative of these agencies in developing and carrying on in a mutual way plans for meeting the larger problems of farming and farm life. Administratively, he is responsible to the extension division of the State agricultural college, which guides and directs his work. His work is financed largely from public funds. His relationship to the people or organized groups of people of his county is that of a public official, and his work is with all the people. He works with all organizations and not for any one organization or group. He is a leader who points the way to better and more profit-

able farming and a more satisfying country life, and teaches how these objectives may be attained.

During the past year the general public has come to a better understanding of the position of county agricultural agents as outlined above. The Secretary of Agriculture issued a formal statement August 25, 1922, which has helped much to clear up certain questions. A part of that statement follows:

> The work of cooperative extension employees, whether county agricultural agents, home demonstration agents, boys' and girls' club agents, or other cooperative extension workers, is educational. These extension workers are public teachers paid with money largely raised from all the people by taxation and are charged with giving instruction and practical demonstrations in agriculture and home economics. Their work covers the entire rural field, which includes economic production, economic marketing, and the development of better home, community, and social conditions.
>
> As they are public teachers, it is not a part of the official duties of extension agents to perform for individual farmers or for organizations the actual operation of production, marketing, or the various activities necessary to the proper conduct of business or social organizations. They may not properly act as organizers for farmers' associations, conduct membership campaigns, solicit membership, edit organization publications, manage cooperative business enterprises, engage in commercial activities, act as financial or business agents, nor take part in any of the work of farmers' organizations, or of an individual farmer, which is outside of their duties as defined by the law and by the approved projects governing their work. They are expected, however, to make available to organizations such information as will be helpful to them and contribute to the success of their work.

GENERAL DUTIES.

The county agricultural agent's office as a service office.—The county agricultural agent reports that in his field of duty he is called upon to do a great amount of work of an advisory nature. There are many calls from individuals for advice or help with problems on the farm which cover a wide field. The agent must supply the information wanted, or find how needed information and help can be made available through the college and extension service. There were reported by 2,160 county agricultural agents a total of 2,619,644 personal calls at their offices, or an average of 1,213 per agent for the past year. When the large amount of time spent by the county agricultural agent in field work is considered, this figure assumes greater significance as an index of the service that is asked of him and of the appreciation of county agent work that has been earned. Additional testimony to this may be found on page 3, in the summarization of certain routine activities reported by county agricultural agents.

Office a clearing house on agricultural affairs.—The county extension office is a logical center and clearing house for the many movements that may be developed to aid in redirecting and improving agriculture and rural problems. The extension agent lends a sympathetic ear to the needs of the many rural organizations and gives time to causes which these may advance in the interest of public welfare. As the approval of many projects for urban development may be sought of the secretary of the local chamber of commerce, so the approval and working support of a county agricultural agent are sought and enlisted by those who are engaged in rural development and improvement. If these movements and causes are for the general welfare and public good and not for the special benefit of

individuals or individual and private organizations and groups, the county agricultural agent willingly contributes valued leadership, influence, and help.

Average number of routine activities per county agricultural agent.[1]

Activity.	Average per agent.		
	34 Northern and Western States.	14 Southern States.	48 States.
Days in field	179	213	193
Days in office	114	76	99
Individual letters written	1,660	804	1,310
Circular letters written	62	26	47
Copies of circular letters mailed	8,682	3,269	6,608
Articles prepared for local press	82	40	65
Articles prepared for county extension news	69	----	----
Different farmers visited on their farms	307	----	----
Total farm visits made	495	----	----
Visits by agents to demonstrators	----	271	----
Visits by agents to cooperators	----	246	----
Visits by agents to other farmers	----	308	----
Visits by agents to boys' and girls' club members	----	182	----

[1] Because of differences in annual report forms used by county agricultural agents, data in this and some succeeding tables have been segregated by groups of States.

Some agents lack sufficient office help.—It is quite evident from this and other studies of the agents' reports that there are many demands upon the county agricultural agent's time, and that more attention must be given to systematizing the office work and providing effective clerical help. In many cases agents are severely handicapped in doing effective work by the lack of any clerical assistance whatever. Thus, a county agent leader in one of the Western States reports:

> Our agents are considerably handicapped, since they must largely do their own stenographic work. As the work becomes established in a county the number of office callers increases, making it difficult for the agent to handle his correspondence, even when his field duties permit him to be in the office. Again, there is a growing demand from farmers that the office be open all the time and that some one be on duty to answer questions, give out bulletins, and furnish information.

This problem is touched upon from another angle by the State director of extension in South Carolina, who says:

> We have in mind plans for furnishing to county agricultural agents some stenographic help and office facilities in order that their work may be more efficient, although it is not definite as to how funds will be provided for the purpose. It is evident, however, that our agents are sadly in need of some system of keeping better records of their activities, as the calls made on them by the people of their counties are too numerous to permit the agent to spend much time in an office. Since the county agricultural agent is the contact man between the State college of agriculture and the United States Department of Agriculture on one hand and the people on the other, there is no matter of greater importance than making his office efficient. It is almost useless to require prompt attention to correspondence and satisfactory record keeping on the part of the agents who have to do their work without any office assistance whatever.

PROGRAMMED WORK.

Agents lead in program building.—The reports of county agricultural agents show that the average agent will rarely serve effectively or long if he assumes the position of an adviser or expert on

all agricultural matters. In common parlance, the successful county agricultural agent is more than a "trouble shooter" or "handy man" for individuals calling on him for help. His reports testify that he builds more soundly and permanently by working to secure definite progress and tangible accomplishment in a few well-selected and fundamental problems which are the concern of many individuals. He makes intensive studies of the farming and country-life conditions of his county so that he may be able to diagnose existing problems and ills. He selects problems to work on which fall within the scope of extension work, shows the people that such problems are important locally, and suggests that their solution be worked out jointly with the extension service. Steadfastly and consistently the agent works to arouse the attention and interest of the rural

FIG. 1.—Demonstrating the construction of a soil-saving dam. Soil-saving and improvement demonstrations were emphasized in the extension programs of many communities and counties in 1922. (Photograph furnished by the Nebraska Extension Service.)

people in these problems, and to kindle enthusiasm and attract active support for their solution. Withal, he bends every effort to select and to organize rural leadership and to train the people of his county to work together in solving these problems, encouraging as far as possible a widespread adoption of the practices that may be recommended. In other words, the county agricultural agent develops a clear-cut program, and thereby provides great assurance that the effort of the extension service and the local people will be concentrated upon problems and needs that are fundamental, and which stand in the way, locally, of better and more profitable farming and a more satisfactory country life. (Fig. 1.) To him also belongs the responsibility of carrying out that program successfully by the development of well-organized and well-rounded plans of work and by enlisting the help of well-selected and well-trained local leaders.

All this but adds emphasis to the point that the agent's position is essentially one of leadership. His success may be measured largely in terms of his ability to develop local interest in a joint study of local problems and plans for meeting such problems, together with his power to inspire and direct local leadership to aid in carrying out these plans.

Objectives in program making are definite.—It has come to be almost axiomatic that programs of extension work should be developed with the help of the people locally; that is, the county extension agents do more than make a program for themselves. They work with interested local groups of people to make a joint analysis of the leading problems of the community and come to an agreement with the people upon what extension work shall be undertaken and how this will be carried on.

In view of the progress that has been made in developing this feature of extension work and considering the time and attention given by agents to developing local programs, an outline of the motives and principles that have come to be considered fundamental to program making should prove valuable.

(1) *Through community program making the local people can be interested most effectively in the aims, ideals, and methods of extension work and therefore will lend wider and more active support to it.*

Building a program with a community brings the extension service, the experiment stations, the agricultural colleges, and other agricultural teaching agencies nearer the people. Because of the closer contact brought about by working with interested local groups, the people learn at first hand what aims and purposes are back of extension work, and as a result sympathy and support for the service are engendered. Undoubtedly, there are still many people who do not know what extension work means or who are not in sympathy with it. While some may be reached through the press and by individual or group meetings, experience shows that the meeting of the folks in a community to work out an extension program convinces them of the value of extension work as nothing else can. Community program making makes friends for the work and insures greater support on their part in developing effective service.

Following is a pertinent extract from the report of the State director of extension in Alabama:

> Although a large number of community programs of work have been taken up by the county agricultural agents, the agents have come to a realization that these programs should be planned and carried out in every community where it is at all practicable. Our state-wide plan contemplates the organization of every community where 10 or more farmers can be induced to band themselves together for the purpose of carrying out a program of work in line with the county agricultural agent's activities. Practically every county in the district where we have local appropriations is at this time planning and going forward with the development of community programs of work for 1923. During the month of November and the first week in December, leading farmers in each of these counties have been called to the county seat, and after hearing the plan outlined by the county agricultural agent, district agent, or other extension worker, these farmers have endorsed the plan of organizing the communities, and promised to give it support in their respective communities. These meetings are being and will be followed up by community meetings where programs are to be determined upon. A consolidation of the community programs of work will then constitute largely the county program in any one county.

(2) *Through community program building the people are taught to recognize problems; to think of them as problems that need to be solved by the community; and to accept responsibility and assume leadership in solving them.*

The people are taught through community program making to recognize a community or commodity problem as their problem. The problem of the individual is submerged in the larger interest of the group. The group problem becomes the individual's problem. Moreover, the local people learn that by self help and group action, the larger problems can be solved with the joint help of the community and the extension service. Thereby, community action and community betterment are encouraged, more people are reached, and larger interests are benefited.

The following quotation from the annual report of the State agent of Georgia is a brief exposition of the methods employed in program making in that State:

In Georgia the agent seeks to get the principal leaders of a community to study with him the main needs of the community. Through such discussion a tentative program is formulated. Then through these leaders in the community organization, where the whole community is brought together, the tentative program is offered, to be added to or taken from as further needs are indicated. Each project indicated is taken separately, and the names of those who are interested are listed. After this is fully developed, the county agricultural agent indicates the main phases of the projects to be undertaken with each separate project group, and the phase on which a definite demonstration is needed is decided. The particular project group interested then selects one of their number on whose farm the demonstration will be conducted. In this way the project leaders are secured for the projects requiring definite demonstrations. In other projects the chairman of the community organization, known as the community council, appoints the leaders, taking into consideration each person's interests. It is recognized that this can not be done for every community, but this is the plan being developed, and a greater interest is being shown this year than in other years in getting community effort organized as indicated.

The following table shows the extent to which community program making has been developed as indicated by the number of committees organized, committeemen appointed, and committee meetings held.

County and community extension committees and committeemen.[1]

Item.	Number.	Counties reporting.	Average per county.
54 Northern and Western States.			
Communities or local units in the county recognized by the county extension service	18,431	1,136	16
Communities now having community committees	14,094	1,102	12
Community committeemen or community project leaders	75,037	1,082	69
Community committee meetings	20,178	947	22
Attendance at community committee meetings	304,204	927	328
Officers and county project leaders	11,546	1,139	10
County extension committee meetings	10,696	1,166	9
Attendance at county committee meetings	105,756	1,156	91
County project committee meetings	9,227	805	11
Attendance at county project committee meetings	146,660	798	183
14 Southern States.			
County extension committees supporting work	678	837	----------
County extension committees helping to plan county programs of work	553	678	----------
Communities recognized by the county extension service	15,193	694	22
Community farmers' clubs organized during the year	3,088	569	5
Total membership	106,805	547	195
Community farmers' clubs in existence	7,538	722	10
Total membership	298,252	692	431
Clubs having community plan or program of work	285	628	----------

[1] See footnote 1 on p. 3.

(3) *A unified program of extension work that will meet the larger needs of both the farm and the home should be developed jointly with the people of a community.*

Out of the wide experience in program making has come the firm conviction that the local program should be made jointly by the extension service and the people whom the program is designed to serve and help. (Fig. 2.) In other words, the advice and counsel of those to be taught is sought with reference to what will be taught and how this will be done. This, too, marks one of the great steps in education; at least in that type of "service" education carried on by the extension service. Extension agents may feel that they know more about the local problems than the local people, but no matter how good their judgment may be of what the local problems are, experience has taught extension workers that there is a wonderful value in making the people partners in planning a program. It is not only sound educational practice, but also correct from the

FIG. 2.—Demonstrating how to treat oats for smut prevention. The use of selected disease-free seed was emphasized in 1922 through demonstrations in the selection or treatment of corn, wheat, oats, cotton, potatoes, and sweet potatoes for seed, carried on in accordance with extension programs planned jointly by the people of farming communities and county extension agents.

psychological standpoint. Thereby, support for the program and far wider recognition of its worth and need are won.

Experience has taught extension workers also that the program should not be restricted to agricultural work alone. The problems of rural improvement are not problems of the farm as distinct from the home or the young people. They are problems which concern the entire farm family, and the extension program should engage the interest and working support of the farmer's family as well as the farmer himself. The work undertaken should meet their needs as well as provide for work on problems of soils, crops, and livestock.

The following excerpt from the report of the county agricultural agent of Marion County, Ohio, is an example of how one line of work may reenforce another and of how to go about uniting several interests to attack a joint problem:

During the summer of 1920, a survey of Marion County, conducted by the county agricultural agent through the township crops committeemen, revealed the fact that large acreages of Red Wave wheat were being grown and that there was no attempt to limit the number of varieties of wheat in a community or in the county. Since Red Wave wheat is a variety that is very poor in milling qualities, it seemed logical to introduce a good variety. There was at this time no Trumbull wheat in the county. A meeting of all township crops leaders was called and the whole wheat problem discussed. The State crops specialist was there and explained some of the salient features of the standardization project. As a result of this meeting, a few men in each township arranged to secure Trumbull seed wheat from neighboring counties for a demonstration that fall. All these growers secured good results. All Trumbull wheat grown in 1921 was used for seed, and about 2,000 acres of that variety were sown. Immediately after the threshing season of 1922, a survey conducted by the township crops leaders indicated that there was an increase per acre of approximately 5 bushels for Trumbull

FIG. 3.—Demonstrating proper poultry-house construction to boys' agricultural club members. Farm boys enrolling in agricultural club work are encouraged by extension agents to carry on their demonstrations on a scale that will impress adults with the desirability of adopting the improved methods practiced. More than 331,000 boys were enrolled in improved crop and animal production clubs during 1922.

over ordinary wheat grown under similar conditions. To help further in emphasizing the superior quality of flour secured from Trumbull rather than from Red Wave wheat, baking demonstrations were held in all the townships by women who had been appointed as leaders for that line of work. The State nutrition specialist of the home-economics department had met these leaders previously and had given them a demonstration as to the kind of bread made from Trumbull and Red Wave flour. As a result of the work done in 1921 and the summer of 1922, the acreage on Trumbull wheat increased from 2,000 to 8,000 for 1923. The total wheat acreage in Marion County is about 20,000.

Progress in developing programs which include work of importance to the farm home and rural boys and girls, as well as the farm, may be indicated by the following tables of farm-home project activities reported by county agricultural agents. There are relatively more

home demonstration agents in the southern group of States, so less of this work is reported by the county agricultural agents in that group.

County agricultural agents in 34 Northern and Western States reported home-economics work as provided for in 778 counties as against 400 counties in which no provision was made in the county extension program, while 967 counties were reported as providing for carrying boys' and girls' club work (fig. 3) as against 218 counties making no such provision.

Farm-home project work carried on by county agricultural agents in 1922.[1]

FARM-HOME DEMONSTRATIONS.

Kind of demonstration.	34 Northern and Western States.					
	Demonstrations.		Demonstration meetings.			
	Completed.	Counties reporting.	Number of meetings.	Counties reporting.	Attendance at meetings.	Counties reporting.
Clothing	10,499	371	11,456	442	198,823	448
Food preservation	2,236	189	2,075	207	38,585	207
Home gardens	542	52	238	41	4,369	42
Home-ground improvement	350	53	113	36	3,682	36
Hot school lunch	583	86	428	69	13,221	69
Home water systems	170	56	116	35	3,994	39
Labor-saving machinery and equipment	976	85	623	88	14,167	87
Milk feeding for increasing weight of children	668	45	504	48	29,148	48
Septic tanks	253	90	83	43	1,181	43
Other demonstrations	969	85	1,505	103	51,659	105

FARM-HOME PROJECT ACTIVITIES.

Activity.	34 Northern and Western States.		14 Southern States.	
	Number.	Counties reporting.	Number.	Counties reporting.
Home water-supply systems planned and installed	675	266	1,772	358
Home lighting systems planned and installed	659	160	5,224	402
Sewage-disposal systems planned and installed	1,165	340	942	161
Farm homes constructed or remodeled according to plans furnished	884	215		
Home grounds improved according to plans furnished	2,149	333	15,588	486
Homes in which labor-saving machinery or equipment was introduced	8,730	258		
Homes screened			25,903	374
Farm and home sanitary conditions improved			24,856	451
Household laborers supplied through agent or farm bureau	1,509	211		
Homes improving practice relative to gardening	11,175	352		
Boys' and girls' home-making and gardening clubs that agent assisted in organizing	2,872	430		
Members enrolled in home-making and gardening clubs	35,096	423		
Members in home-making and gardening clubs completing work	18,734	344		

[1] See footnote 1 on p. 3.

Boys' and girls' club work carried on by county agricultural agents.[1]

Activity.	Clubs organized.	Counties reporting.	Members enrolled.	Members completing.
34 Northern and Western States.				
Crop production	1,513	423	15,774	7,593
Livestock production	3,656	839	42,329	26,444
Home making and gardening	2,872	430	35,096	18,734
Total	8,041	1,692	93,199	52,771
14 Southern States.				
Boys' club members			98,095	42,933

[1] See footnote 1 on p. 3.

(4) *By planning the program of work with the people of a community, the local needs, conditions, and practices, which may greatly modify contemplated work, may be found.*

With the development of closer contact with a community, more is learned of local conditions and problems. This in turn has a great modifying influence on the plans of work which may be outlined for any project. In nearly every line of work there are local conditions, habits, practices, and economies which influence the work and which should be known before the work is begun. Practices recommended for certain counties may be adopted in widespread fashion in some, but in others comparatively little spread may be secured because of conflict locally with different conditions, practices, or habits. This may even hold true for certain communities of the same county. Therefore, extension agents are seeking to bring out the reason why this or that practice may fit locally, or how it should be modified to meet local conditions. As the methods of community program analysis gradually become more effective, these local factors and influences are being more easily recognized and their significance appreciated. Consequently, the plans of work are modified accordingly. In many cases extension agents learn that they must find or devise means by which people may adopt recommended practices.

The reports of county agricultural agents give many illustrations of these points. They show, for example, that the use of lime in a community may be held in check because of the lack of conveniences for handling the lime. Where dependence is placed upon the individual to use lime under such conditions, comparatively small amounts are used, but when through the efforts of the extension agents lime bins are established in certain communities, many more people use lime because it has been made easy for them to get lime. Often the high cost of lime may be the limiting factor. Thus when an agent devised a means of providing cheap lime the people used large quantities of it. This is shown in the following diagram (fig. 4.) taken from the report of the county agricultural agent in Iowa County, Wis.

The State director of extension in Pennsylvania reports as follows:

Work needed on lime seems to be not so much demonstrations of the value of lime, which is quite well understood, but rather activities in connection with securing of lime more cheaply or conveniently through the utilization of local sources of limestone suitable for grinding, and by locating and developing local deposits of marl and by-product limes.

Illustrations of devising methods of meeting local needs may be found in other lines, too. Thus, the cow-testing association is strongly recommended as one of the best means of securing wider interest in dairy-herd improvement and dairy management. Yet extension agents are finding that the cow-testing association may have only limited value under certain conditions. The average dairyman may not be able to join such an association, yet he ought to be, and, in many cases is, interested in the same things the cow-testing association work teaches. But the small number of cows he owns, the cost of membership, his inability to take care of the itinerant tester, or other factors may prevent him from joining or continuing his membership in an association.

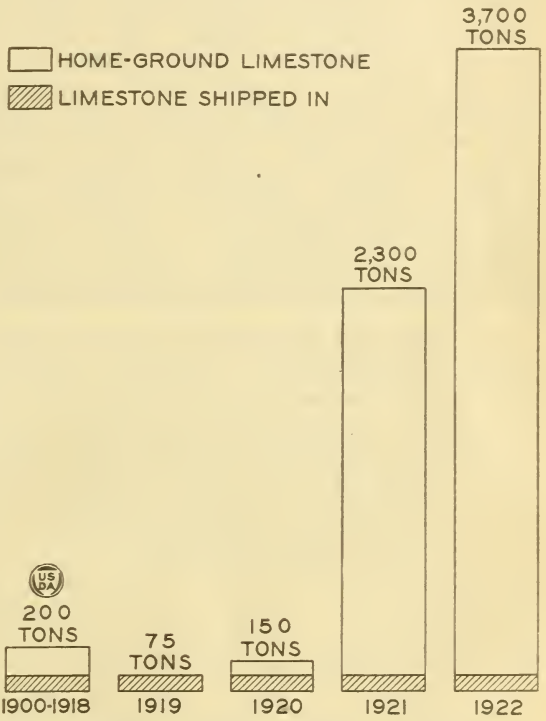

FIG. 4.—Increase in amount of lime used in Iowa County, Wis., after portable lime crushers were introduced in 1921.

The following excerpt from a report of the county agricultural agent of Boone County, Ill., shows how one agent met the problem successfully and developed a much greater interest in an extension problem by an adaptation of the teaching method:

One of the biggest ways of helping dairymen in this section of the State is through the cow-testing association. Last summer we tried to organize an association of 26 members and only 17 men signed up. Their excuse was that it cost too much money. Another plan was worked out whereby each member takes monthly his own samples of milk. Glass tubes and special pasteboard boxes made to order for sending by parcel post were provided for each of the 110 members. Milk scales were bought collectively so that each man weighs the milk every two weeks, weighs the feed once each month, and samples the milk for test on a given date each month. To check up on the factory test a composite can sample is taken weekly, and this is preserved and is tested when the tests of the individual cow samples are made.

The farm bureau has installed a 24-bottle electric Babcock machine with all necessary equipment. Our tester spends all his time testing and keeping the records of the 110 herds. The members are charged a flat rate of $10.20 per year. This figure, however, is somewhat lower than I would now recommend, as good men are required to properly carry on such work and they demand a larger salary than the ordinary tester. A charge of about $14 per year would be sufficient.

During the two months of operation, a large quantity of milk was sent in by parcel post. Only a few bottles came through broken. The fact that a farmer can conveniently send his milk to the office by parcel post for 10 cents accounts

for the reason that 98 out of 110 members sent their milk samples and feed records in on time during February. Five or six herds are being tested daily. This project is taking better among the farmers than any project that I have had anything to do with during five years of county agricultural agent work. We now have 12 men on the waiting list and expect to start a second association in the spring.

Similarly, lack of local equipment may prevent many farmers from adopting practices which have been proved worth while and which they are ready to accept. It may be necessary for the county agricultural agent or specialist to help organize a supplementary service. The man with the home orchard is not able to produce clean fruit unless he sprays. That may be demonstrated to him. He can not, however, afford, in some cases, the type of machinery that is necessary to insure effective spraying. Therefore the county agricultural agent and specialist may develop such service associations as spray rings. In this way a few farmers can band together, own a machine cooperatively, and do effective spraying. In other localities, because of different conditions, county agricultural agents and specialists may have to devise modifications of this, as, for example, by establishing a commercial spray service to insure the production of clean fruit. An illustration of the plan taken from the report of the State director of extension in Pennsylvania follows:

In Pennsylvania the method of spraying termed "group cooperator," continues to be very popular. By this plan a number of growers representing about 75 acres in potatoes employ cooperatively a man to give his entire time to spraying. There are several reasons why this is so successful. The initial cost of the machine per grower is reduced considerably. When a man is doing nothing but spraying it is done more systematically than if each farmer were doing it individually along with his other farm work. The average cost of spraying per acre is considerably less, though the average resultant increase in yield per acre is never quite as high as where the spraying is done by the farmer himself. The following data from one of 32 group cooperative spray rings typify the results from this method of spraying potatoes:

Number of growers	17
Acres sprayed	75
Yield unsprayed—bushels	131. 4
Yield sprayed—do	187. 4
Increase in yield per acre—do	56
Cost per acre	$14. 13
Total net profit	$2, 829. 61

Various types of farmers reached.—The lines of work to be included in local extension programs should be selected with reference to the class of people to be reached and their ability to adopt the recommended practices. County agricultural agents and specialists show by examples of programs submitted that they are coming to recognize that there may be several groups of people in a county who vary greatly with respect to their ability to adopt changes in farm practice. It is being found also that the teaching methods employed for one group may be quite different from those employed for another. Thus, the practices recommended to commercial fruit growers, truck gardeners, dairymen, poultry farmers, or livestock breeders may not be at all adaptable for the man who is not carrying on a specialized business.

It seems quite natural to assume that the practices recommended should be in line with the experiences, knowledge, and equipment of the farmer and that the agent should modify the subject matter and method of teaching likewise to meet the habits and thoughts of the

particular group to be taught. Yet there has been perhaps too much of a tendency to try to reach everyone with the same practices and manner of teaching. The so-called demonstration set up in the commercial orchard, or conducted on specialized poultry or dairy farms may have comparatively little appeal to the average farmer. Extension agents are questioning whether the owner of the small home orchard, farm flock, or small dairy herd, may not be confused by such instruction carried on with equipment and methods on a larger scale than he has at home. There is some doubt, too, whether this type of farmer can apply the practices recommended on more or less specialized farms to his own problems, which are of a different nature.

Program making with a community tends to bring such vital points under consideration. County agricultural agents find that with more experience in determining local programs, the problems of the average farmer are identified more easily and that plans of work and leadership can be developed to help the average man in terms of his own experience and needs. With this is coming a greater appreciation of the reactions of the average man, his attitude, prejudices, doubts, and perhaps inability to adopt certain recommended practices. These must all be considered in choosing the work to be undertaken locally and should have great bearing on the plans and teaching effort of extension workers.

Influence of the State program of work in building local programs.—There is a growing tendency on the part of State extension divisions to give more attention to building State programs of work. Such programs, also, are coming to be not mere catalogues of specialists' projects, but well-planned outlines of the fundamental problems that need to be attacked in a district or State. Since in the majority of States some sort of a State or district program, or a tentative county program, drafted by the county agricultural agent, guides the program-making effort of the county agricultural agent and the people locally, the progress noted is significant. Better community programs will result when better State programs are planned. It is essential that such programs are founded upon the results of sound investigation and research and that they stress fundamental State needs. This implies more consistent and thorough study on the part of the experiment station, agricultural college, and extension service of the State. There is evidence that specialists and county agricultural agents are coming closer together in determining fundamental problems and needs before outlining projects, attempting to develop local programs, or making detailed plans of work. It has been generally understood that the county agricultural agent should extend what information the college and station think should be extended to the people through the extension service. However, with this must come greater recognition of the necessity for reflecting back to these agencies through the county agricultural agent, the local county needs and problems. As a result there will be necessarily a modification of projects and plans so that such local needs may be more effectively met.

The following excerpts from reports of the State county agent leaders of Montana and Minnesota indicate how extension leaders regard some of these points:

Previous to 1920, extension work in Montana had concerned itself as much with getting work accepted and established as with what was to be done. Its

work in early periods naturally included problems that were immediate and of a local character. Recently, however, under the influence of general agricultural depression and widespread movements of farmers, the problems and demands assumed a wider and broader aspect. Under these conditions, extension workers and farmers alike have been made to realize most keenly that there are big fundamental factors and forces with which their local problems are related. During the past year the State has made a start in the formulation of state-wide programs. When programs were drawn up in counties, these State problems were discussed with committeemen and leaders in communities and their projects decided in the light of their relation to state-wide problems. From experiment stations and the United States Department of Agriculture, there are some data available for a start in this direction. However, there will be a need in the immediate future for more research and investigation studies to secure scientific data on problems with which Montana agriculture is concerned. There is immediate need for such studies as soil surveys, land settlement and utilization, influence of climate, and marketing conditions.

An important contribution to the problem of program development in Minnesota consists in an effort made by the county agent leader's office during the latter part of 1922 to analyze agricultural statistics and set them forth in a form suitable for use by the county agricultural agents in county and community program development. An eight-page questionnaire was prepared which calls for general agricultural information on the county for the past 30 years, a statement of the crop and livestock production for the past 30-year period, extent of farm-power and farm-building development, and status of the home community, all of which information was derived very largely from census reports for the past 30 years. This information is being supplemented by the summary of agricultural statistics obtained by the township assessors on the findings for 1922. It is expected to place these data in the hands of each county agricultural agent for his respective county early in 1923, so that the data may be used by the agent in giving him a better perspective of the agricultural problems of his county.

Technic of program making improving.—The discussions and illustrations on program making presented show how the attention of extension agents has been turned to the improvement of methods of developing local programs and plans of work. The year has been one of genuine progress with a decided gain in making programs less superficial. Extension agents realize the need, however, for more detailed studies of local problems and more personal contact with local people to determine the conditions which affect the adoption of practices. With this background, practices can be recommended and plans for their adoption can be incorporated in the community extension program with more confidence.

There is also a tendency to reduce the number of lines of work in local programs in order that a larger degree of accomplishment in a few outstanding problems may be secured as against a necessarily smaller amount of accomplishment in many projects. There are only a limited number of working days in a year. For the average county only about half of the total working days may be used for direct work on projects. The balance of the time must be charged to miscellaneous work, to organizing committees, to setting up programs, and to conferences and leave. As a result, when too many projects are selected the agent can give little time to any one project particularly, if there are many communities. To be sure, organized and trained local leadership and help from the specialists may compensate to some extent, yet in the last analysis adequate time and direction to the work locally must always be given by the agent.

These problems in connection with local programs of work are touched upon from another angle in the following quotation from the report of the State county agent leader of Michigan:

> We have maintained that the working out of a community program should be a development process rather than a spontaneous one. We believe it to be

a mistake to try to work along too many lines in a county, also that a recognized job should present the organization necessary to carry it out, and that no more organizations should be formed than are necessary to do the work at hand. We believe each job undertaken should be of such a nature that progress on it can be measured and understood by the average farmers of a community. Our position in this matter is based upon the experience of several county agricultural agents in this State who have at some time in their experience undertaken too extensive and varied programs and found themselves with overworked communities. These agents have gone too fast in calling public attention to all the things which they hoped to see accomplished as a result of their efforts. It is an error to go into a community and call the general public's attention to all the things which might be done to improve the agriculture of the community and progress in the solution of these several problems. With all the committees considered necessary to carry on so many lines of work appointed in the several communities in the county, agents find organization itself apt to become a burden. Effort which should be consumed in securing progress along some particular line is dissipated in a frantic effort to keep this great unwieldy organization in motion.

EXTENSION PROBLEMS ESSENTIALLY TEACHING PROBLEMS.

The county agricultural agent as a teacher.—Attention has been called to the fact that more emphasis has been placed upon the position of a county agricultural agent as a teacher. To this should be added, however, that the conception of a teacher in extension work needs to change. The general attitude still seems to be that, as teachers, county agricultural agents and specialists need only to carry information, with illustration or example, to the people and to increase the amount of information on any subject or problem. The question is a greater one than teaching subject matter as such alone. The problem of the extension teacher is to study the people, to understand not only their local problems but their habits and thoughts and the psychological factors that influenec their actions and reactions. There is need for far greater study of the conditions and factors that influence or prevent the adoption of practices, and far greater attention should be given to the problems of teaching practices in contrast to teaching subject matter. In other words, the extension agent is realizing that it is his problem to so modify and apply the subject-matter teaching that the largest possible number of people are led to adopt definite practices.

Teacher more than an information carrier.—Extension agents are recognizing that the teaching of improved practices may be expedited for the great mass when the improvements suggested are reduced to demonstrations of single practices of a simple nature. This principle is based on the knowledge that the great mass of people are reached through the eye and imitate what has been seen. Therefore, if such teaching can be reduced to terms of single practices these may be more likely to be adopted by the average farmer. In other words, in the past extension agents have been dealing, perhaps too much, with principles and have not realized the difficulty the average person has in applying principle to practice. This has very great bearing on the type of demonstration work carried on as well as all other extension activity developed to secure the adoption of better practices. This teaching effort, however, must recognize also, from a psychological standpoint, the periods or steps by which the human mind reaches what should be the natural conclusion and by which the individual is impelled to accept the practice that may be recommended. These steps are: (1) Securing interest and attention, (2)

winning confidence and desire, and (3) stimulating decision and action. Perhaps it may be said that some extension teaching may fall short of the desired end because these steps have not been understood and the work planned accordingly. Again, interest may have been aroused but not followed by decision and action. Men in commercial work would say that the agent has interested but not "sold" the client or prospect.

The human nature element.—These facts and principles affect the work of program making and planning and the design of all plans of work which a county agricultural agent may develop to carry out a county program. Without a true understanding of the significance of these principles it can not be expected that a large measure of accomplishment may be secured. Program planning and making will be superficial if the agent can see no further than the mere teaching of subject matter or the developing of projects and the carrying out of demonstrations per se. For each problem and with each group of people there are different teaching problems which must be uncovered and which must be met by plans of work designed specifically to meet the special problem. In many respects the job of the extension agent resolves itself into a selling proposition. Though the need for an improved practice may be evident and though facts and information to meet that problem are available, there will be comparatively little spread in the adoption of improved practices until the agent and specialist study the habits, thoughts, practices conditions, and problems of the average farmer in systematic fashion, much as a salesman makes definite plans to win the confidence and impel action on the part of those he desires to reach.

MEANS AND METHODS EMPLOYED IN EXTENSION TEACHING.

More rational use of extension methods developed.—County agricultural agents are coming to look upon the various methods of extension work or the means and agencies that have been employed heretofore in a new light and are developing a more rational use of these in teaching through extension work. For example, during the past few years great emphasis has been placed on the need of a larger number of demonstrations, and there has been a great response on the part of agents. They are coming to understand, however, that it is essential to do more than secure an arbitrary number of demonstrations. Each problem, each plan of work, each county, and, no doubt, individual groups of people or communities will affect not only the number of demonstrations employed, but the design and use of such demonstrations in teaching people the truth and worth of the practices recommended. It is not enough to say that there should be 100 demonstrations where only 50 were conducted before. The problem is a greater one than setting an arbitrary standard. Perhaps with one project and for one group of people, 50 demonstrations alone may be needed to secure the desired ends. Similarly, agents and specialists are commencing to examine and weigh the other means employed in extension work with a greater appreciation of the underlying teaching problems, as related to the reactions of individuals.

DEMONSTRATIONS.

The demonstration should serve to show in actual practice the worth of better methods that may be advanced to meet local needs and should suggest to the individual that he might profit by imitating the example. That is, the philosophy of demonstration work is based on the idea that the worth of the practice that is recommended has been proved, and that the demonstration itself is used to show the people locally that the practice is sound and gives the results anticipated.

People learn by imitating.—If it is accepted as a truth that many people have difficulty in applying principle to practice, then the demonstration idea assumes greater significance and value. It has been said that about three-fourths of the people learn not by studying and applying principle, but by rule of thumb, or didactic instruction, or by visualizing and taking part in actual practices and by copying or imitating what has been seen and done. Nor are the people so greatly influenced to adopt changes in practices by logic or reason as may be thought. Modern psychology and experience in extension work both point to the fact that suggestions play the stronger part and that the teacher to be successful must use more means of teaching the people by suggestion. A demonstration should suggest a profitable example as well as present cold facts. It may be that much of extension effort falls short of the desired end because such effort has not been planned with these things in mind. There may be too much theory, argument, and explanation, too little suggestion, too much for the mind to reason and debate, and too little for the eyes to see and for the hands to do. Much demonstration effort may fail to reach the desired goal, also, because it is too complicated. When the demonstration is designed so that those who see it are won by simple suggestion and apply by imitation without much change or further explanation then more people will adopt the lesson taught. There is increasing evidence that demonstrations for the great mass should be more simple and designed to show only a single practice at a time.

Single practice more effective.—A simple demonstration in liming may be used as an example. The demonstration is designed so that a strip of land is left unlimed through a field, the remainder of which has been limed according to the conditions to be met in that field. The most favorable time for comparing results is at the harvest. A number of people are invited to the field, and in their presence the crop removed from a certain area of the limed soil is weighed and compared with the crop cut from the same sized area in the unlimed part of the field. The lesson is obvious. Through liming, definite increased crop production is obtained. If in work of this kind the specialist or county agricultural agent tries to show other things, this simple fundamental lesson may be lost. Thus some extension agents may be inclined to use the same field to show the effect of acid phosphate, or acid phosphate and barnyard manure, or the value of varying applications of lime, or a comparison of the worth of different kinds of lime. While it is understood that sometimes such things may complement one another and need to be emphasized, it should be recognized that where too much is taught confusion may arise. The

problem that should stand out is that the soil is acid. The remedy should be a simple one; namely, to add lime, and the lesson should be just as simple.

There is need for directing greater effort to reduce the work in livestock improvement to practices and particularly single practices, simple in character. Much of the teaching effort in animal husbandry is still in terms of principles. The principles of feeding and of breeding and management are taught instead of substituting the demonstration of definite single practices. Perhaps the difficulty lies in the thought that animal-husbandry teaching can not be reduced in this way. Work with crops may lend itself more readily to teaching and demonstrating in terms of single practices despite the varying con-

FIG. 5.—Examining results of a simple demonstration in cotton production. To obtain accurate figures for comparison, one field is usually managed according to demonstration methods and an adjoining field is managed in the way common to the locality. County agricultural agents are giving more attention to the staging of comparative-result demonstrations of this type. There were 276,455 demonstrations in crops and animal production carried on during 1922 by demonstrating farmers under the supervision of county agricultural agents.

ditions of soil, climate, and moisture. (Fig. 5.) However, the gain in the number of people adopting recommendations is so great when practices are demonstrated that more effort should be directed to reducing suggested improvements in the field of livestock production to single practices.

More demonstrations desirable.—Supervisors of extension work have for some time emphasized the need for a larger number of demonstrations. The response to this appeal has been quite good, as shown by the table below. There is every indication, however, that there are still probably not enough demonstrations conducted on the average in connection with individual projects to adequately meet local conditions and secure the maximum spread of influence.

Studies show that the farmer does not travel farther than 3 miles to see a demonstration. This being the case, the spread of influence of a few demonstrations as against a larger number is necessarily small.

Number of demonstrations and average per county agricultural agent, 1920–1922.[1]

States	1920		1921		1922 [2]	
	Number.	Average.	Number.	Average.	Number.	Average.
33 Northern and Western States	51,459	45	82,992	67	119,806	92
15 Southern States	101,211	96	176,799	182	156,649	157
48 States	152,670	70	259,791	119	276,455	120

[1] See footnote 1 on p 3.
[2] The figures for 1922 are for 34 Northern and Western and 14 Southern States.

The problem of the number of demonstrations to be conducted, however, must be considered from the point of view of the ultimate objective. If the demonstrations are to be used to teach large or representative numbers of people the worth of certain recommended practices and the desirability of adopting such practices, there may be need for a definite demonstration period in project work and sufficient evidence from numerous demonstrations to make the lesson seem worth while to the people. If the demonstrations are simple and can be carried forward by demonstrators with comparatively little supervision by county agricultural agents, a larger number of demonstrations may be carried on and a larger mass of testimony and records will be secured. More people will see the demonstrations, more will hear and talk about them, and a greater spread of adoption of practice will be assured. At present, many demonstrations are too complicated and entail too much care, supervision, and detailed record keeping, to allow the agent to plan for larger numbers. There seems to be also a lack of definite purpose in the use of demonstrations. The part these play in bringing about that widespread adoption of recommended practices which is necessary to make a project successful should be given greater attention by specialists and extension agents.

The following table shows the number of demonstrations and demonstration meetings reported by county agricultural agents of 34 Northern and Western States for 1922 classified by the principal lines of work. These figures suggest the question as to whether a sufficient number of demonstrations are conducted for each project. In general, it would seem that much of the work would be strengthened if more demonstrations were conducted. The figures also indicate to those familiar with these lines of work that the number of demonstrations conducted per county is larger where the work has been carried on in terms of single practices.

Farm demonstrations in 34 Northern and Western States, 1922.

Line of work.	Demonstrations.	Counties reporting.	Average number of demonstrations per county.	Average number of meetings at demonstrations per agent reporting.	Average attendance per agent reporting.
Soils and crops:					
Alfalfa	3,027	343	8	3	86
Clover—red, white, alsike	921	116	8	2	118
Sweet clover	3,232	306	10	3	44
Corn	5,101	542	9	4	107
Rye	619	138	4	4	70
Oats	2,459	333	7	5	52
Wheat	5,210	427	12	5	78
Orchard	7,656	658	11	8	147
Pasture seeding and renovation	1,182	201	5	2	33
Potatoes	9,261	526	17	6	128
Soybeans	4,989	423	11	3	67
Rodent control	6,157	232	26	8	141
Other crop demonstrations	4,922	375	13	8	195
Drainage	480	155	3	3	67
Fertilizers	3,277	379	8	3	79
Lime and limestone	2,051	230	9	4	126
Unclassified soils	2,021	217	9	5	241
Total	62,565				
Livestock:					
Beef-cattle feeding	564	104	5	4	110
Blackleg control	1,766	140	12	8	42
Dairy feeding	1,411	168	8	7	155
Hog cholera	3,372	196	17	12	115
Poultry culling	17,653	906	19	16	265
Hog feeding	2,908	234	12	6	135
Poultry feeding	4,404	331	10	9	166
Other livestock demonstrations	5,759	305	19	9	242
Total	37,837				
Farm economics and marketing:					
Farm management and account schools	955	262	3	3	92
Purchasing and marketing	674	109	6	6	192
Other farm-economics and marketing demonstrations	529	93	5	5	207
Total	2,158				

DEMONSTRATION MEETINGS.

The use of demonstrations implies that effort will be made by the extension agents to get people to see what the demonstration has to show. Often demonstrations may be seen by people without any organized effort on the part of the extension agents; for example, when the demonstrations are located near the roads, or when the demonstration farmer is interested in getting his neighbors to see the results of the work. In general, however, reliance is placed upon field meetings at demonstrations where the results secured are seen and where testimony to the worth of the practice may be given by the demonstrator. (Fig. 6.) Demonstration meetings are used also in connection with demonstrations of methods, such as poultry culling, at which interested people are shown the method recommended. The work of bringing the people to demonstrations may be expedited and a wider degree of interest secured, in some cases, where effort is made to organize tours and excursions in the community or in the county. These tours and excursions are likely to develop a wider interest, bring more people to the demonstrations, and develop more systematic teaching.

Demonstration meetings and tours.[1]

Item.	34 Northern and Western States.	14 Southern States.
Meetings at demonstrations	66,951	
Attendance at demonstration meetings	1,327,603	
Automobile tours and excursions	2,147	
Attendance on automobile tours and excursions	186,517	
Field meetings held		21,708
Attendance at field meetings		494,556

[1] See footnote 1 on p. 3.

FIG. 6.—Farmers' field meeting to study a hog-pasture demonstration. To extend the influence of demonstrations, county agricultural agents frequently arrange for field meetings for farmers in the vicinity. During 1922, 88,659 such field meetings were held with an attendance of 1,822,159.

How many people see the demonstration.—The table given above shows that county agricultural agents held 66,951 meetings at demonstrations in 34 Northern and Western States and 21,708 field meetings corresponding to these in 14 Southern States, making a total of 88,659 demonstration meetings held. The reports of county agricultural agents also record a total of 276,455 demonstrations conducted. The ratio of demonstration meetings to the total number of demonstrations is therefore as 1 is to 3. This would seem to show that fair use is made of demonstrations. However, when the number of people attending demonstration meetings, as recorded in these tables, is divided by the number of such meetings, it is found that only 20 people have been brought by this means to see a demonstration. This indicates that so far as the philosophy of teaching by example and demonstration is concerned too few people are reached. Further evidence on this point is found in studying the table of the demonstrations and demonstration meetings as classified by projects. These also show that as we analyze this problem in terms of any one project very few people have been induced to see the demonstrations. It must be assumed that the

fullest use is not made of the demonstration as a means of showing people the worth of recommended practices.

TOURS.

Tours and excursions to demonstrations may be organized in a district of several counties, a single county or in a few communities. (Fig. 7.) Such tours are being used not only to see demonstration work, but to take numbers of people who have special interest to see farms, orchards, farm equipment, livestock, and the like, in order to study improved practices and methods. Thus, poultrymen may visit several counties in a State (or even run over into one or two adjoining States), for the purpose of studying the poultry

FIG. 7.—Farmers' automobile tour to visit demonstrations To increase the spread of influence of demonstrations in crop and animal production, county agricultural agents arrange for tours by farmers and their families to visit successful demonstrations. Experience indicates that tours involving a small number of people like that pictured above are more successful than where a large number of people are conveyed. More than 2,000 tours of this character were conducted during 1922.

industry. Similar excursions are conducted in the interest of dairying, fruit growing, general livestock, and even general farming. The extension agent who studies methods, however, feels that tours which may be organized in a general way with no specific end in view or which do not tie up closely with some large phase of the county program of work may be dangerous. Such excursions may become pleasure jaunts and have no definite lessons. The student of methods also notes that there may be a tendency in developing county tours to attempt to take too many persons to visit too many places and to study too many interests. It would seem safer, in general, to confine the tour or excursion to the special end of securing the interest and confidence of a fairly large number of people in some single phase of the program as a study of crop-rotation demonstrations, potato-disease control demonstrations, poultry-housing demonstrations, and the like. In this way the people attracted are more likely to be those who have a special interest in the particular piece

of work, and there is logical and proper reenforcement of the effort to establish certain improved practices.

The planning of excursions needs much study in order to make them of the most effective use. Agents who have had successful tours point out that they should not be organized on the spur of the moment, but should occupy a definite place in the scheme for arousing the interest and attention and gaining the confidence of those people who ought to see this specific lesson in better practices or methods which is being taught. Therefore, the part played by project leaders or demonstrators on such tours, the arrangement of demonstrations for the meetings, the exhibits at demonstrations to show comparative results, the talks by project leaders, demonstrators, agents, and others should all be planned ahead in order that those who come to see may arrive at a definite conclusion. Then a majority of them have the value of the work brought home to them and they should then be open to the suggestion that the practices they have seen demonstrated may be adopted with profit. In other words, there must be more than mere observation and interest. There should be organized effort on the part of extension agents and local leaders to use the tour to carry in a conclusive way to a larger number of people definite results of better practices, and to follow this with an attempt to secure definite and wider adoption of such practices.

GENERAL MEETINGS.

The many and varied meetings which are arranged for by the county agricultural agent in furtherance of his work may be considered under the heading of "general meetings." Such meetings include the regular local and county meetings of the county extension organization, farmers' clubs, granges, the farmers' union, the farm bureau, and kindred organizations. They may also include special institutes, schools, and the like which have been developed in cooperation with the extension service in the interest of local and state-wide agricultural improvement. The county agricultural agents also conduct many meetings with local groups to discuss some problem of general or special local interest in connection with the local program of extension work. Then, there are many meetings of associations, organizations, and committees less closely related to extension work which are attended by the county agricultural agent.

Number of meetings and attendance reported by county agricultural agents in 1922.[1]

Kind of meeting.	Number.	Counties reporting.	Average per county.	Attendance.	Counties reporting.	Average per county.
34 Northern and Western States.						
Farmers' institutes	4,985	624	8	1,024,666	620	1,652
Extension schools or short courses	3,526	488	7	263,560	487	541
Extension automobile tours	2,147	796	2	186,517	794	235
County extension committees	10,696	1,166	9	105,766	1,156	91
Community committees	20,178	947	21	304,204	927	328
County project committees	9,227	805	11	146,660	798	183
Total meetings, including others not listed above	173,804	1,281	135	9,185,626	1,281	7,170
14 Southern States.						
Total meetings	84,725	891	95	4,815,671	883	5,453

[1] See footnote 1 on p. 3.

Are too many meetings held?—Because of the great number of meetings reported by county agricultural agents every year, an average of 118 per county, the question may be raised whether or not it is necessary for an extension agent to arrange for and take part in so many meetings. It is appreciated by all that a meeting may be a means of bringing extension work before the people. The extension agent must naturally lose no opportunity to lend help and sympathetic support to the many movements which may arise and the many activities which may be carried on by other interests for improving agricultural needs. Yet, it may be that this support is sometimes given at the expense of movements and work which may be more important and more directly in line with the program of extension work. It would be difficult, perhaps, to draw the line as to which meetings should be attended by the county agricultural agents and which should not. The great number of night meetings, however, which every county agricultural agent feels he must attend is one of the factors which contributes at times to making him dissatisfied with the work. These meetings may also cut into the work of the agent so much that it is difficult for him to find time to concentrate on some of the larger problems and secure the measure of accomplishment desired.

The thought naturally arises whether the most profitable use is made of many meetings attended by agents. Supervisors of extension agents express the feeling that too many meetings are arranged by the county agricultural agent to satisfy the general feeling and impulse that groups of people should be met and a message carried to them. It would seem that all meetings should be called for a specific purpose, with definite ends in view, and employed like other extension means or agencies to reenforce the effort made to teach people in terms of the local program or the specific work the extension service is trying to maintain. Extension agents find that they need to give more time to the study and planning of meetings and to solving such questions as: What group of people should be induced to attend? How can the circle of those who attend meetings be increased? How should the meetings be organized and conducted? What special phases need to be emphasized in presenting subject matter so that interest and confidence may be stimulated to a high degree? What must be done to supplement the oral instruction with illustrative material? What graphs, charts, posters, exhibits, slides, films, or other material are available or need to be prepared for a series of meetings?

MOTION PICTURES.

The year was marked by an increasing use of motion pictures by extension agents. The limiting factors at this time seem to be a lack of projecting apparatus, and particularly, inability to secure a means of developing electric current in some communities. Lack of suitable films, and of fireproof projection booths as required by the laws of some States, are other factors. Some agents feel that a motion-picture machine wins interest for their work on the part of the people, who in the past have not been attracted by the extension work. There are others who feel that interest thus secured has no lasting value and that the legitimate use of films must be confined to developing phases of the program or to illustrating methods of

solving certain problems. These two views are given in the following extracts from reports:

The State director of extension in California says:

> The agricultural extension service does not own a motion-picture projector, since the State office has not encouraged the use of motion pictures by county agricultural agents. In general, it is not believed that many motion-picture films are sufficiently valuable in nature as educational agencies to warrant their use by county agricultural agents. The agricultural extension service in California does not believe that it is the function of the county agricultural agents to entertain rural audiences. Most of the motion-picture films available are valuable chiefly for amusement purposes.

The opposite view is expressed by the State county agent leader of Montana who reports that:

> Extension offices in nine counties in Montana are equipped with motion-picture outfits. During the year pictures have been shown at 295 meetings, with a total attendance of 21,997. Farmers are strong in their praise of educational pictures and have often been heard to say that such pictures have taught them more than lectures or bulletins. So successful has been the motion-picture activity that the county agricultural agent must use caution against overworking pictures and becoming nothing but a "movie" operator. He does this by not advertising the fact that pictures will be shown at meetings. Many people attend these meetings regularly in the fear that they may miss the "movies." All agents use a generator attachment on their automobiles to furnish the necessary light for the projector. The greatest difficulty of all is to secure good films that are applicable to the work in the counties. Agents try to secure films that apply as closely as possible to the project work of communities. A picture program ordinarily consists of a project film, a film of general educational value, such as scenics, industries, and commerce, and last but by no means least a good comedy. This film in a lighter vein is by no means improper, as it cheers up the depressed farmer and delights the children. There is very urgent need for the production of more films that apply to agriculture in Montana and the State program of work undertaken by the extension service.

RECORDS.

Simple records of comparative results essential.—The importance of securing accurate reports of extension work has long been recognized by extension agents. Of late, however, the need for more specific records of accomplishment has been emphasized, and greater effort is being directed to securing accurate records of the comparative results of demonstration work and, what is even more important, records of the number of people who have been led to adopt the definite practices which such demonstrations should teach. Much of the demonstration work may fall short of its object because of the lack of definite accurate records of results. Where definite simple records of results of demonstrations have been secured, they may play a very important part in suggesting to the people locally the worth of the recommended practices, and, as used by some county agricultural agents, actually do insure a far wider and quicker adoption of recommendations. Unfortunately, it is often made difficult to secure such records because too many figures are requested and the record keeping is so involved, particularly if the demonstrations are tests or involve too many factors. The general farming public should be able to judge from the records of a fairly large number of local demonstrations that the method or practice recommended insures a definite increase and profit with the cost of materials and labor considered. The simpler the record forms and the record keeping can be made, and yet tell this essential story, the easier it will be for county agricultural agents and project leaders to secure positive results. The average demonstrator is so likely to

be satisfied with the apparent results of the demonstration that he may not stop to measure results in a definite way, unless it is made easy for him to do so. Nor has the county agricultural agent time to measure the results and secure the records of every demonstration. No doubt, specialists can help much in overcoming these practical difficulties by devising simple record forms which provide space for recording only the most essential data. Then the county agricultural agent and the project leaders and demonstrators he may train will be able to turn in a better and more complete story of accomplishment.

The following extract from the report of the county agent leader in one of the Northwestern States will serve to illustrate these points:

> An effort has been made this year to have records kept for all demonstrations where tabulated results are required, as in the case of crop yields, poultry culling, feeding tests, and the like. These records have been found to act as a moral stimulus, making it possible to secure better-planned work and a completion of the project. For state-wide projects, record blanks, which are sent to the county agricultural agents and committeemen, have been worked out by specialists. As in the case of the written plans, they are made as simple as possible. A part of the leader's work is to see that these reports are kept and to return them to the county agricultural agent, who incorporates them in his final records. Systematic record work has been advanced this year. The value of records has been proved and their use generally adopted. More records have been kept this year than ever before, although it is still difficult to get farmers to keep records. The problem for the future is to work out records more carefully and get leaders and demonstrators into the habit of recording developments and results.

PROJECT LEADERS.

Local leaders as committeemen.—The employment of volunteer local leaders to assist in carrying on extension work is a feature which has been given increased attention during the year. This holds true not only where a formal extension organization has been developed or where a farmers' organization is cooperating locally with the extension agent, but wherever interest in developing a local program of extension work has been fostered. Perhaps the first tendency in developing extension programs of work and selecting project leaders in helping to carry those out is to have too large a program, too many projects, and consequently more local leaders or committeemen than can be definitely instructed or trained to assist in carrying on extension work. Supervisors and county agricultural agents now realize this, and more attention is being given to developing well-rounded local programs of work, which do not include more projects than can be managed effectively. More attention is given also to the selection and training of project leaders or committeemen. Perhaps too much has been expected of local leaders in the past. Often, many are appointed without any clear understanding of the part that is expected of them. It has been difficult for some agents to specify what local committeemen might do. Yet, in the last analysis this is comparatively simple. If the extension agent is organizing the project work so that local leaders may assume definite tasks and responsibilities in working to bring about certain accomplishments, then the problem becomes one of definitely outlining the duties mutually acceptable and instructing the leaders as committeemen. On the other hand, if the extension agent is organizing for organization's sake, as it were, then the tendency may be to set up a more or less complete roster of committeemen in each community with but few working committeemen.

A State county agent leader of one of the Western States reports that, "Many agents appear to have difficulty in getting out of their minds that it is not an organization as such that is being set up in a community, but that it is the organization of project work that is being undertaken."

If the specifications for each job were first outlined, the whole problem of securing and organizing committeemen for work would be easier and results more tangible. The average project is deficient in outlining the details of what must be done locally to secure the desired accomplishment. When more detailed plans and calendars of work are developed then local leaders or committeemen may be directed more effectively.

In California the agents are attacking the problem of securing better plans, as indicated from the following report of the State director of extension:

> Not only are projects laid out in regular written form with definite goals, but the work, month by month on each project, is shown on an office calendar or chart which gives space for records of the work actually done as well as that projected. By this means members of the supervisory force can check on their visits the progress that has been made in each county on the work in hand. Likewise the supervisory officer has a copy of this program for each project in his notebook and makes notes on each visit of the state of work on each project.

Local leaders as teachers.—Better plans of work are developed when the project leader can be given a place as a teacher or a leader of demonstrators. Then it is necessary for extension agents to reduce what is intended to be taught to local groups to a definite outline, and instruct the local leaders in the methods to be followed. Home demonstration agents have had much success in the use of local leaders in this way, and it is because of this success that county agricultural agents are directing their effort to adapt the same methods to agricultural work. While there may be some difficulties in the way, there seems to be no reason why local leaders may not be trained to instruct others in the community in certain improved practices, particularly if the work that is proposed is reduced to single practices, such as budding trees, control of certain insect and rodent pests or plant diseases, soil-improvement practices, mixing fertilizers and feeds, constructing certain farm equipment and buildings. At the present time the factors which limit a wider use of project leaders as local teachers include the following:

(1) The demonstrations are too complicated.
(2) Projects involve too many practices.
(3) Varying local agricultural conditions make it difficult for the leader to adapt suggestions.
(4) Lack of detailed plans and calendar of work with definition of duties of project leader.
(5) Insufficient training of leaders.

The following illustration shows how the county agricultural agent of Chelan County, Wash., used project leaders:

> The problem attacked was that of demonstrating the thinning of fruit. Meetings were conducted at which the county agricultural agent, assisted by a prominent fruit grower, gave demonstrations of the methods of thinning, both as to economical practices and the proper amount to thin according to the variety, vigor, load, and bearing habits of the tree. At these demonstrations, after a full and careful explanation of proper principles and practices of thinning, the demonstrators were assisted by the community thinning leaders, and other competent people selected for the purpose. The demonstrators, with the assistants, conducted a one-hour thinning school in which all persons present were instructed in the proper thinning of various varieties.

As a result, 15 communities adopted the thinning project, 15 project leaders in thinning cooperated, and 17 field demonstrations were held with a total attendance of 867. Persons attending the demonstrations represented 8,537 acres of orchard on which the amount saved in labor by the new thinning methods was estimated at $42,500.

After two years of community demonstrations in thinning, the situation has changed from that in which only a few people practice thinning to the present conditions where 95 per cent of all the orchards in Chelan County are carefully thinned.

Written plans for project leaders.—In some States the project plan of work carries an outline of the specific things which a local leader may be asked to do. Such plans are discussed with the project leaders as individuals or with a committee of all leaders of one project, and the various duties explained. In several States the extension agents have been successful in going one step farther by developing a brief supplementary written plan of work for the project leaders. These plans outline the *What*, *When*, and *Who*, of the project, or in other words, specify the nature of the job to be done, the dates of work, and the part played by project leaders, demonstrators, and extension agents.

The following illustration is from the report of the State county agent leader of Montana:

Each project has a committeeman who is chosen for his leadership and ability in the particular line of work called for by the project. A written plan, outlining his responsibilities, is carefully worked out by him and the county agricultural agent. In the past many good committeemen have been discouraged by being overworked, and to avoid this, the county agricultural agent is using a larger number of committeemen and minimizing their duties as much as possible. When this particular piece of work, for which the committeeman is chosen, is done, his responsibility ceases whether it be a project that lasts a few weeks or through an entire season. The advantage of a large number of committeemen is obvious; it secures the interest of more people in the community by dividing responsibility and getting more to work. During the course of the development of the project, the county agricultural agent and committeemen hold as many conferences as are necessary for the successful completion of the project. Under the supervision of the various committeemen, and selected by them and the county agricultural agent, are demonstrators who work out various phases of the projects. Their work is as specifically planned as that of the committeemen, the written plan being adhered to. This plan is worked out by the county agricultural agent, demonstrator, and the committeeman. It includes a calendar of work similar to the calendar of duties that lawyers and other professional men follow. The county agricultural agent keeps this calendar in mind and notifies the project leader by letter or personal call when certain phases of the work should be attended to. A word should be said here about written plans. They follow no standardized form, save in a few fundamentals. The details of work are adapted to the leader and demonstrator, and every effort is made to keep them as simple as possible.

Project committees.—It may seem as if the organization of project committees, that is, committees made up of all the local leaders for one project, logically follows the appointment of local project leaders. Such committees may serve a most useful purpose in helping to clear the way to more effective work on local problems, particularly by helping to give such local leaders better training. The use of such committees, in general, is increasing also. However, one difficulty that is met in such committee work is that specialists or extension agents overload the local leaders with subject matter and then fail to provide them with a definite simple plan which would help the leaders serve most effectively as committeemen or teachers. A committee of this kind should be a clearing house, too, of local practices, problems, needs, and conditions which affect the carrying out of any project, and which need to be known in order that the plans of work

may be modified accordingly. In other words, the project leader, in the opinion of many extension agents, should come to a meeting of his associate project leaders prepared to give as well as to receive, to help plan as well as to be trained.

CAMPAIGNS.

Securing adoption of practices.—The reports of extension agents indicate unusual interest in methods of obtaining a spread of influence from demonstration work or other extension activities. No doubt, all realize the necessity for securing the greatest amount of interest in the demonstration work. Of late the agents are more actively concerned in working to turn this interest into action on the part of a large number of people and getting them to adopt the practices which are demonstrated. Heretofore, while this need has been felt, the methods of turning interest into action have not always been well planned and so organized as to insure an adequate number of persons adopting practices. It is true that the results of demonstrations have been advanced at meetings and made known to some people through the local press, but, as a whole, the effort to secure a so-called spread of practice has been a little haphazard and not effectively planned as a natural corollary to the demonstration work.

The systematic methods used by some agents to secure a wider spread of adoption should be of great interest to others. Thus, extension agents in Maine are trying the plan of making a campaign for the enrollment of cooperators following a demonstration period. Cooperators in this sense means the people who pledge themselves to adopt the practices, the results of which have been proved by demonstrations. The success of the method is worthy of further study by extension agents everywhere. The principle involved is that of following the demonstration period by, or merging with it, a definite and systematic attempt to bring to a large number of people results of the demonstrations, and then by several methods to secure pledges from such people that they will adopt the practice recommended.

The steps that are involved in campaigns of this kind may include the following:

1. A solution for a local problem that is economical and profitable and that the people might be reasonably expected to adopt.
2. Reduction of subject matter to teaching it in terms of a single practice.
3. Carrying on a fairly large number of simple demonstrations placed at representative and strategic points in a county.
4. Visits or tours to these demonstrations to see comparative results.
5. Accurate records which testify in no uncertain terms to the worth of the practice.
6. Publicity during this period to inform the people of the progress of the work and the results.
7. Definite attempt to secure pledges of people to adopt the practice demonstrated. This may be done by—
   - *a.* Distributing pledges at program-planning meetings where results of demonstrations are outlined by demonstrators.
   - *b.* Distributing pledges through project leaders at demonstration meetings where results of demonstrations are outlined by demonstrators.
   - *c.* Using circular letters announcing results of demonstrations and inclosing campaign-enrollment cards.
   - *d.* Personal solicitation by project leaders.
   - *e.* Proper publicity.
   - *f.* Development of pools to order necessary supplies.

It is essential, of course, that such supplies as certified seed, disease-free seed, lime or fertilizer, machinery and equipment, are available

before a campaign is started, so that prospective cooperators may readily practice what is recommended.

Results of campaigns.—The following is a summary of the results of a pruning campaign, conducted by the county agricultural agent of Kennebec County, Me.:

Results of pruning campaign, Kennebec County, Me., 1922.

Pruning demonstrations	12
Number of cooperators enrolled	541
Number of cooperators reporting	430
Others reporting	56
Trees pruned, 1921 campaign	49,787
Trees pruned, 1922 campaign	69,725
Per cent increase in pruning	40
Enrollment:	
Program-planning meetings	76
Orchard meetings	203
Demonstrations and otherwise	44
Secured by project leaders	71
Secured by mail	147
Total enrollment secured	541

PUBLICITY.

The figures already cited from the annual reports of the county agricultural agents show increasing use of local newspapers to carry information about extension work to the people. The large number of circular letters mailed also testifies that the agents are doing much to develop interest by means of the written page. Yet, better-planned and more systematic use of this means of reaching people would seem to be warranted, when it is considered how many people there are to reach, the many lines of interest, and the many projects each county agricultural agent is carrying. (Fig. 8.) The chance letter, the occasional article in the local paper may be seen and appreciated by only a few persons. Each plan of work, each detailed study of the means to be used to win people over to adopt recommended practices, might properly include a detailed outline and plan of publicity. The extension service and extension specialists in particular could lend most valuable aid in this respect by furnishing the county agricultural agent an outline of the local news articles needed in any one project, supplying certain of these articles in advance with suitable release dates.

County agricultural agents in 34 Northern and Western States report that in 595 counties a local extension news publication is published and none in 574 counties. While the responsibility for managing this feature has largely been taken over by the organizations cooperating in the support of extension work, county extension agents contribute many articles and use this publication to a considerable extent in advancing the local extension program. There seems to be a place in supplying local news of extension work which the small, simple, monthly extension news sheet fills despite the extra cost. The paper may help to identify extension work as local work and stimulate pride on the part of the local people in this feature as a local enterprise.

In the minds of some extension agents the term publicity is synonymous with propaganda. The meaning implied here, however, is to make public facts and information about the work of the extension service locally, rather than to stimulate propaganda features.

This question is discussed in the following interesting way in the annual report of the State director of extension of California:

The entire question of publicity is not generally understood throughout the counties. The large number of farmers think that both the extension organization and the agricultural extension service would be greatly benefited by more publicity. Indeed, they think that propaganda is one of the strong forces making for success and that it is a lack of such propaganda which has prevented the farm bureau from including in its membership practically all of the farmers in any county. In general, the extension service has not had such a point of view. Its policy has been that results accomplished in any county or community were sufficient to interest people in the work and to convince them of those efficacies if the results were of a character making in a large degree for the public good. * * * There is, undoubtedly, a field for a real news service which would be quite different from the publicity or propaganda agencies and which would only serve as an additional means of spreading the results of the research work and would supplement the demonstration work done by the county extension agents.

FIG. 8.—A soybean demonstration field. New varieties of crops, particularly soil-improving crops, such as soybeans, cowpeas, alfalfa, clovers, and vetches, were introduced in many sections during 1922 through demonstrations reenforced by supplementary publicity, exhibits, and the active cooperation of selected project leaders.

Publicity may play a most important part as a definite means of influencing people locally to accept extension teaching and to change their practices. That is, publicity as used by some extension agents is employed in a purposeful way to lead the people through the various steps from getting their attention and interest to impelling decision and the adoption of practices. Nor should the use of the local press, circular letters, special circulars, or other printed matter, in this way be confused with "propaganda." Publicity should take its place and play its part with the other means and agencies, such as meetings, demonstrations, tours, and exhibits, which may be employed to suggest the worth of improved practices and influence people to adopt the teachings. The power of suggestion and reiteration in influencing people to act has been pointed out by psychol-

ogists. Practical experience dictates that both need to be more actively and constantly employed in the effort to teach people through the printed page as well as through the other means used.

CHARTS AND EXHIBITS.

The employment of suggestion, as well as logic and reason, to influence people to change practices would indicate that there is need also for the use of more illustrative material. Too much stress can hardly be laid upon the fact that visual instruction is the most effective means of reaching the great majority of people. The use of project exhibits, photographs, specimens, models, and working designs is increasing, but there is a place in the teaching of practices for far greater use of these, and particularly for illustrative charts, graphs, or enlarged pictures. The colored, life-size pictures of laying and non-laying hens may teach more than the actual demonstration, particularly after the agent has left and the individual wants to practice at home what he has seen. In California, the county agricultural agents are using large illustrated charts in connection with the work of introducing a better system of pruning and find these most valuable in showing just how the job of pruning should be done. The farmer who is "sold" on the idea of remodeling or building a poultry house has the job made easier for him because of blue prints or diagrams which are furnished. The circular that is well illustrated with pictures of how to do what is recommended may suggest and teach more than the lengthy bulletin.

County agricultural agents understand the need for more illustrative material and would make far greater use of graphs, diagrams, illustrative charts, and similar material, but time and equipment have so far prevented them from developing these features. Perhaps in the more systematic study and use of methods now being carried on there will be opportunity for the State extension headquarters to develop these helps and provide more charts and other illustrative material for use in carrying on the more important projects which have district and state-wide application. The good use that is made of simple illustrative material in commercial organizations and the dependence placed upon such material in educating and winning the buyer, point out to the extension agent that this field is still an undeveloped one in extension work.

SUPERVISION OF COUNTY AGRICULTURAL AGENTS.

Supervision more effective.—It will be admitted by all students of extension work that there has been a great increase in the definiteness and effectiveness of supervision of county agricultural agents during the year. The district agents and assistant State leaders have, as never before, attempted to analyze their fields of work as supervisors and to plan detailed programs and calendars of work much as the county agricultural agent must plan his program of work. As the appreciation of the need for more effective methods of conducting extension work grows, so the need for training individual extension agents in terms of these methods likewise has grown in the minds of those directly in charge of county agricultural agents. In short, supervisors are now commencing to address themselves more and more to distinctive supervisory problems and are attempting by analysis and study of the work of individual agents to build supervisory programs which will insure that each agent will be given specific help.

The experience of most supervisors indicates that effective supervision of county extension agents must rest (1) upon studies and analyses of the programs and methods employed, and (2) upon drafting a practical supervisory program and plan of work with goals and working dates, designed to meet the needs of individual county agricultural agents. In general, such programs provide for an increase in attention to such specific problems as program analysis, program planning, analysis of extension methods, organization of plans of work, training and selection of project leaders, securing of records, effective office management, preparation of exhibits, illustrative material, and publicity.

Some supervisors are going so far as to analyze their supervisory efforts for a year, and to make a detailed account of the number of visits to the county, time expended in a county, the specific services given on each visit, and an estimate of the results obtained. Such studies are found to be most helpful in aiding the supervisor to make his program and plans more effective. A sample summary of such an analysis follows:

Sample summary of analysis of time and distribution of activities of State and assistant State county agent leaders.

Item.	State county agent leader.	Assistant State county agent leader.
Number of counties visited during year	23	15
Number of visits to counties	71	34
Average number of visits per county	3	2
Largest number of visits to any county	9	8
Smallest number of visits to any county	1	1
Total number of hours spent in counties exclusive of travel	661	315
Per cent of total hours spent in counties	66.7	32.3
Largest number of hours given to any county	53	87
Smallest number of hours given to any county	7	3
Average number of hours per county	29	21
Number of counties receiving less hours than leader's average	14	9
Number of counties receiving less hours than State average	4	4
Average number of hours per visit	3	3
Largest number of times any county was helped	18	19
Smallest number of times any county was helped	3	2
Average number of times any county was helped	9.4	6.4
Number of counties receiving less help than leader's average	11	9
Number of counties receiving less help than State average	11	10
Average time period per specific help rendered in a county	3	3.6
Percentage of time devoted to:		
Office organization, records, and reports	10.5	7.1
Maintenance and training of personnel	3.6	7.2
Program development and analysis	46.0	49.3
Subject-matter assistance	3.6	3.8
Publicity	8.3	6.0
Addresses and conferences with county leaders	8.7	18.6
Budget and finance	5.7	4.1
Extension promotion and relations	4.7	----
Miscellaneous	8.9	3.9

TRAINING FOR COUNTY AGENT WORK.

There is a very definite need for training courses or other work that will better prepare men for county agent work. The assistant State director of extension in Indiana emphasized this fact in his annual report:

Approximately one-fourth of the men now on the job have been appointed during the past year. This great demand for county agricultural agents emphasizes the need through the agricultural colleges to give special attention to the training of men for the extension service. This work is so well established that, though farmers are complaining about high taxes and insisting upon reduction in expenses, the demand is not to cut out the county agricultural agents as an economical movement, but to have a more efficient service through the office, if this be possible.

One of the new developments during the past year in California has been an undergraduate course in agricultural extension methods. This course was given during the second semester of the year 1921–22 to a class of more than 30 students. The course considers the history, methods, and administration of extension work. Four of the students are now employed as assistant county agricultural agents in California. It has been found that the men who took this course are more finished in extension work than other men of similar age and training who graduated from the same college, but did not take a course in extension methods. The State director of extension in California says, "This experience has warranted us in giving more time and attention to this and other courses in extension methods that later may be organized."

OUTLOOK AND SUMMARY.

Work well supported.—The records of the office of cooperative extension work show that on December 31, 1922, 2,082 county agricultural agents and 159 local negro agents were at work. For the fiscal year 1922–23, $9,938,398 was budgeted for county agent work by the extension directors of the various States. These figures are significant. They show not only how important the work has grown to be, but also how well it has held its own despite certain adverse economic conditions. The past year was marked by popular movements for economy and retrenchment in the conduct of public affairs, particularly in the rural districts. There have been general appeals to reduce taxes, and county officials have been urged to reduce expenses nearly everywhere. In view of the fact that so large a part of the money used in cooperative extension work comes from county funds, it is gratifying to find that the number of county agricultural agents is still at a high level. It is true that in some States there is still need for expanding the work and for securing a full complement of county agricultural agents. But the work as a whole, so largely dependent upon public support, has proved itself, and has won such wide support from the farmers and the general public that the outlook for needed expansion must be considered as most favorable.

Great interest in extension methods.—Extension agents everywhere are giving great attention to the study of extension methods. In doing so they are also placing more emphasis on studying the extension problem first, the specific teaching or "selling" job, and the means and methods that seem best suited for that job, rather than featuring certain means or agencies in themselves. That is, there is growing recognition of the part that meetings, demonstrations, project leaders, tours, exhibits, and other means and agencies play when each is used in its logical place to reenforce and supplement the others in awakening people's interest and in obtaining action. There is also a better understanding of the need for studying and planning what means should be employed and the best method of doing this for each specific problem or teaching job.

The threshold of a most interesting field has just been crossed, namely, the intensive study of methods of carrying on extension work. In the broad sense the place of the county agricultural agent as a teacher is coming to be appreciated, and extension agents are studying means and methods in terms of specific teaching problems. Diagnoses of problems and job analyses are coming to precede the

formulation of projects, and more detailed plans of work are being drawn to supplement formal project outlines as the means and methods of teaching are better understood.

A study of methods may involve: (1) Finding the job, (2) solutions and subject matter, (3) methods of teaching, and (4) encouraging widespread adoption.

Finding the job.—This includes what is ordinarily styled program determination. Program determination is coming to be more fundamental as appreciation and understanding grows of the factors or influences that ought to be considered in the determination of a program, such as a State program, specialists' projects, tentative programs by the county agricultural agent, analyses of past years' work, studies of statistics and data from census reports and the like.

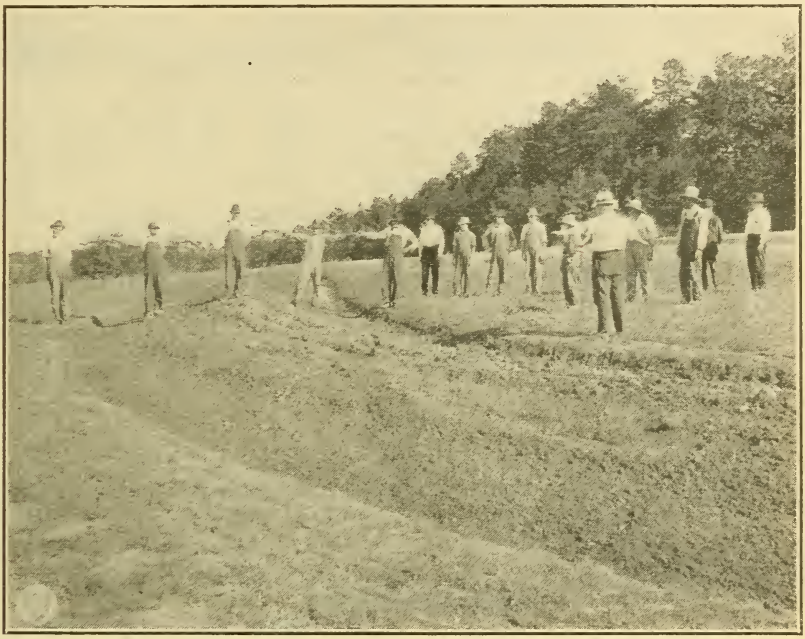

FIG. 9.—A demonstration in terracing to prevent soil erosion. The prevention of soil erosion is a vital matter in many sections, and this North Carolina demonstration is typical of terracing demonstrations conducted by county agricultural agents during 1922 in Southern States, as a result of which 28,937 farmers were induced to terrace sloping lands.

Solutions and subject matter.—The tendency to simplify practices which may be recommended for adoption is increasing. The need for this simplification is developed on closer contact with the people locally and better knowledge of the local needs, practices, conditions, as well as the thoughts and habits of the people, all of which may greatly affect the type of extension teaching to be carried on. The problem of reaching the average farmer may be entirely different from that of reaching the specialized farmer; yet much of the subject matter and the solutions proposed, as well as the entire teaching effort, is often designed in terms of the methods, equipment, conditions, and point of view of the specialized farmer. There is need for much study of methods, of finding solutions and outlining subject matter to reach and influence the great mass. The fact that many farmers may not adopt practices which from the point of view of the

extension agent they ought to adopt can not be longer charged to indifference or prejudice. There is a real teaching problem which entails different means and methods from those now commonly employed, and these methods will be developed as we come into closer contact with the average man's conditions, problems, practices, equipment, finances, and opinions.

Methods of teaching.—In this phase the agent is concerned with a study of the methods of teaching the largest possible number of people that the solution recommended proves worth while in practice. The principal effort here will center about developing and organizing plans of work to make the most effective use of demonstrations, demonstration meetings, tours and excursions, indoor meetings, illustrative material, organization and committee work, records, publicity, or other means for the particular job or phase of the program which needs to be completed.

Encouraging widespread adoption.—The teaching period, particularly teaching by demonstrations, may be followed by a definite campaign to secure a wide adoption of the methods or practices which have been shown to be of value locally. In many ways this period merges with the period preceding and the same means and methods may be employed, yet there is an intensification of the use of these means and systematic effort to induce action on the part of the people to get them to adopt as well as to look and listen.

SOME RESULTS OF COUNTY AGENT WORK.

The following tables indicate the extent to which farmers may have adopted certain of the more important practices as a result of extension work conducted through the county agricultural agents in the 48 States, and so reported by them in their annual reports for 1922. These tables, of course, do not include data on many projects that are carried by county agricultural agents and therefore do not give a complete résumé of the progress and accomplishments of the year. They do indicate, however, how far-reaching the extension effort has been in terms of the larger projects and also show the nature of the larger problems of improved agriculture which concern the farmers and engage the active attention of the county agricultural agent.

SOIL IMPROVEMENT.

The following is a summary of the more important activities relating to soil improvement. More than one million acres of land have been improved by drainage or terracing through the efforts of county agricultural agents in the last year. (Fig. 9.) The large amount of lime used and the great number of acres of legumes plowed under likewise indicate that the agents are stimulating a wide interest in attacking and solving fundamental long-time problems.

Soil-improvement work.

Line of work.	Number.
Drainage systems planned and adopted	3,753
Acres involved in such drainage systems	574,793
Farmers consulting agent regarding use of commercial fertilizers	213,108
Acres of clover or other legumes plowed under for green manure	652,180
Farms on which soil was tested for acidity	33,388
Farms on which lime or limestone was used	48,001
Tons of lime or limestone used	627,897
Farmers terracing sloping lands	[1] 28,937
Acres so terraced	[1] 544,641

[1] These data are for 14 Southern States only.

FARM CROPS.

That the work in crops is marked by outstanding results in crop improvement through seed selection and treatment for diseases is indicated by the following table which outlines the success that has been met in improving practices. Of special interest is the large number of bushels of improved seed for sale by farmers. This is the result of the effort to improve seed and introduce better varieties:

Farm-crop work.

Line of work.	Corn.	Wheat.	Oats.	Rye.	Barley.	Potatoes.	Sweet potatoes.	Cotton.
Farmers selecting seed in fall	108,347							
Bushels of seed selected	569,934							
Farmers testing seed for germination	47,870							
Bushels tested	171,120							
Farmers for whom improved seed was secured	27,316	24,278	14,392	6,345		43,351		27,198
Bushels of improved seed secured	118,933	606,823	385,601	88,899		921,879		[1] 8,347,898
Farms with improved seed for sale	6,876	7,876	3,847	2,588		7,881		4,022
Bushels of improved seed for sale	323,895	1,386,268	781,402	292,555		2,258,753		[1] 11,232,079
Bushels of seed treated for smut		1,235,273	749,475					
Acres planted with seed treated for disease						236,290	36,545	
Acres treated for diseases						153,180		
Acres treated for diseases and insects								380,828
Farms on which crop was introduced or culture modified	271,124	90,828	69,604	28,153	4,783	141,240	19,490	51,821

[1] Pounds.

LEGUMES.

The problem of introducing leguminous crops and the attendant problem of crop rotation has been given much attention by county agricultural agents last year as shown in the following table. The large number of farms on which the growing of alfalfa or soybeans has been introduced is particularly encouraging in view of some of the difficulties incident to influencing people to adopt new legumes and to consider rotation systems.

Work relating to legumes.

Line of work.	Number.
Farms on which alfalfa growing was introduced or farm practice relative to alfalfa culture modified	38,276
Farms on which sweet-clover growing was introduced or farm practice relative to sweet-clover culture modified	20,270
Farms on which ed, alsike, white, or other clover growing was in roduced or farm practice relative to clover culture modified	19,630
Farms on which crimson clover was introduced or farm practice relative to crimson-clover culture modified	10,840
Farms on which espedeza was introduced or farm practice relative to lespedeza culture modified	7,172
Farms on which soybean growing was introduced or farm practice relative to soybean culture modified	56,818
Farms on which cowpea growing was introduced or farm practice re ative to cowpea culture modified	23,408
Farms on which velvet-bean growing was introduced or farm practice relative to ve vet-bean culture modified	16,378
Farms on which peanut growing was introduced or farm practice relative to peanut growing modified	11,310

FRUIT.

That the work with fruit has been prominent is shown by the following table of results:

Fruit work.

Line of work.	Number.
Farms on which orchards were planted, except bush fruit	11,621
Acres in orchard	43,293
Farms on which fruit trees were pruned	40,333
Acres involved in pruning	214,238
Farms on which fruit trees were sprayed	39,590
Acres involved in spraying work	295,942

INSECT AND RODENT PESTS.

The following shows that under the leadership of county agricultural agents, farmers have fought effectively to control insect and rodent pests over a wide area:

Work relating to insect and rodent pests.

Line of work.	Number.
Acres on which insect-control methods were followed	3,210,120
Farms on which rodent-control methods were followed	75,036
Acres involved in rodent-control work	13,176,888

LIVESTOCK.

The campaigns for the introduction of purebred stock, which have been conducted with the help of county agricultural agents, seem most successful according to the following summary of data reported by county agricultural agents. These reports show a total of 103,274 purebred sires and dams purchased by farmers as a result of the work.

Purebred-stock work.

Line of work.	Number.
Registered stallions and jacks obtained	467
Registered mares obtained	541
Registered bulls obtained:	
Dairy	7,799
Beef	7,472
Registered cows obtained:	
Dairy	15,076
Beef	6,724
Registered rams obtained	3,292
Registered ewes obtained	6,220
Registered boars obtained	14,916
Registered sows obtained	40,767

Furthermore, the reports of county agricultural agents show that the effort to improve the character of the livestock, and in some degree its management, has been reenforced by work on other projects (fig. 10) which show the following results:

Miscellaneous livestock and related work.

Line of work.	Number.
Cow-testing associations organized	365
Cows tested for milk production through associations and by individuals	271,602
Bull associations organized	302
Breeders' associations organized	659
Number of members in breeders' associations	17,430
Farmers assisted in figuring balanced rations	58,602
Silos erected on agents' advice	3,166
Farmers using self-feeders for hogs	27,611
Farms on which poultry practice was modified	166,634
Farms on which beekeeping was introduced or modified	10,788
Number of hives involved in beekeeping	104,045

County agricultural agents in cooperation with local veterinarians and State authorities were instrumental in having farmers control many livestock diseases. A record of the results obtained in controlling some of the more important diseases through such cooperation follows. Of special significance is the work done in testing for tuberculosis in indicating the very great interest of farmers in the control of the disease:

Livestock-disease work.

Line of work.	Number.
Animals tested for tuberculosis	1,532,494
Animals treated for blackleg	438,478
Hogs inoculated against cholera	978,786

FARM ECONOMICS.

The interest in establishing better systems of farming and the help given in securing better credit and marketing facilities is outlined in the following summary:

Farm-economics work.

Line of work.	Number.
Farm-account books distributed	43,548
Farmers adopting cropping, livestock, or complete farming systems according to recommendations	36,376
Farmers assisted in securing credit from farm-loan and other credit associations	8,313
Number of cooperative buying and selling associations organized by the agent or his predecessor with which the county agricultural agent has cooperated	7,186
Value of business done by such associations and by individuals assisted	$255,572,038
Savings made by such associations and individuals	$17,547,141

OTHER WORK.

The activities of county agricultural agents in farm-home improvement projects and an account of their work with boys and girls have been listed elsewhere in this report, as have some accounts of the character and scope of the office and field service of the agents. The tables given here are not a full record of all the work reported, as has been explained. Only those items which have been reported by a comparatively large number of agents are included. Though

the many other activities which engage the county agricultural agent and help the farmer are not listed, these tables show the place that the extension work has won and the service it is render-

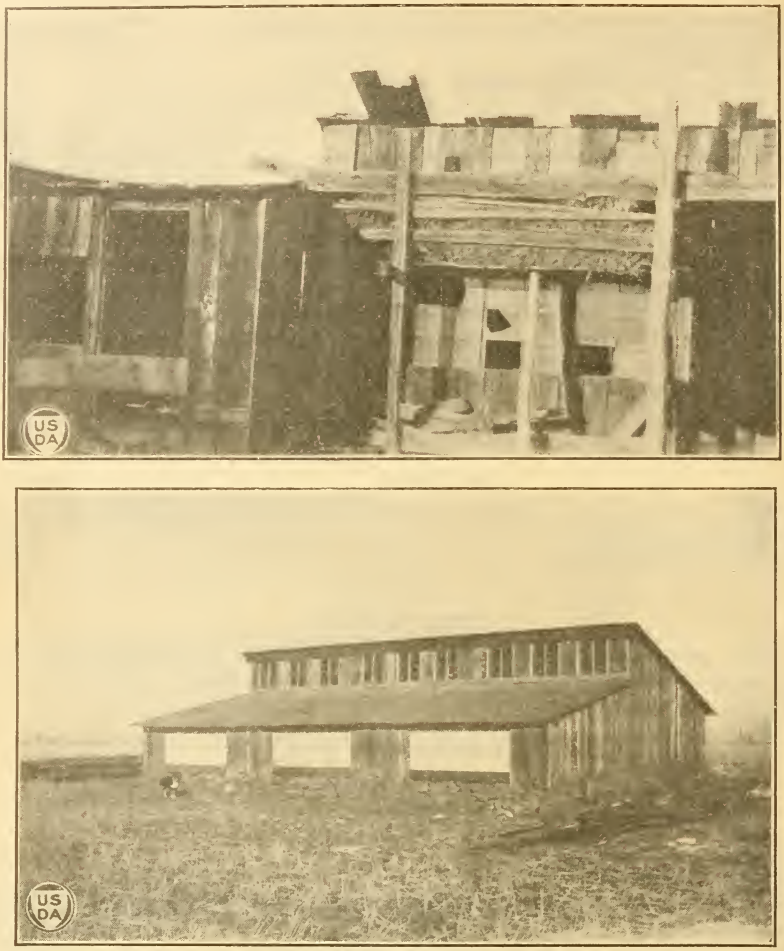

FIG. 10.—Demonstration in improved poultry-house construction. The original poultry house on a farm and the new one built as a result of extension influence. There were 33,433 demonstrations in poultry, including poultry-house construction, carried on during 1922 under the direction of county agricultural agents. (Photographs furnished by the Idaho Extension Service.)

ing. The story of accomplishments they tell should be a source of great encouragement to all who are interested in extension work and the welfare of agriculture.

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